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THE DIPTEROUS GENUS *CHRYSOTACHINA* BRAUER AND BERGENSTAMM (TACHINIDAE)

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There has been much confusion concerning the identity of the species belonging to this genus and for many years all metallic green or blue Neotropical tachinids with hairy eyes were considered to be the same as *Tachina rheinwardtii* Wiedemann. Townsend has recently shown that Wiedemann's species is different generically from species generally identified as *rheinwardtii* and proposed the name *braueri* for the common form found in Brazil. An examination of the material in the Museum collection indicates that there are a number of species belonging to *Chrysotachina*, of which *braueri* is the type, Brauer and Bergenstamm having based their genus on this form under the impression that they were dealing with *rheinwardtii*.

All the species belonging to *Chrysotachina* are rather similar in appearance, all being metallic green, blue or violaceous, all with ocellars and the acrosticals and dorsocentrals 3–3; there are usually three pairs of sternopleurals but sometimes only two. The palpi are clavate, antennae elongate, eyes pilose, parafacials bare; propleura bare; infrasquamal setulae present; squamae angulate on their inner corner; abdomen with pair of discals on the intermediate segments. All but one of the species are Neotropical.

TABLE OF SPECIES

1.—Pile of the occiput whitish.....2.
Pile of the occiput deep, dull yellowish; face golden.....*peruviana* Townsend.
2.—Squamae deep brown....*tatei*, new species.
Squamae tinged with brown, or white....3.
3.—Male with sexual patch of hairs on under part of last tergite.....4.
Male without sexual patch...*alcedo* Loew.
4.—Sexual patch confined to the fourth segment.....5.
Sexual patch also present on apex of third segment.....7.
5.—Squamae tinged with brown, the border brown.....6.
Squamae pure white with yellowish border..*willistoni*, new species.
6.—Facial pollen whitish, with only slight yellow tinge in some lights.....*townsendi*, new species.
Facial pollen dull brassy yellow.....*purpurea*, new species.
7.—Sexual patch composed of long loosely clustered hairs.....*panamensis*, new species.
Sexual patch composed of shorter, densely grouped hairs.....*braueri* Townsend.

Chrysotachina tatei, new species

Metallic green and blue, the mesonotum rather thickly pollinose; squamae deep brown. Length, 11 mm.

FEMALE.—Face and cheeks reddish in ground color; front green, the ground color showing through the pollen on the upper half. Frontal pollen yellowish gray, the sparse, coarse hair black; ocellars long; two reclinate frontals above. Occiput densely yellowish gray pollinose, the orbits white, the pile whitish. Cheeks and face white pollinose with slight yellow tinge. Palpi reddish. Antennae wholly black, the basal aristal segments both very short. Lunula reddish.

Thorax metallic green, the pleura cinereous pollinose. Mesonotum with cinereous yellow pollen that does not conceal the ground color, but leaves four broad, dark vittae, these appearing pollinose from frontal view. Hair wholly black. Prealar bristle more than one-third as long as the following bristle.

Legs black, the tibiae brown. Hair black, yellow on the posterior coxae. Anterior tarsi slightly broadened.

Wings tinged with brown. Squamae deep brown.

Abdomen shining green and violaceous, without pollen, the under surface dark. Hair black, the first sternite and base of the second segment beneath with some yellow hairs.

HOLOTYPE.—Female, Mt. Roraima, Brazil, Philipp Camp, 5100 ft., October 28, 1927.

Chrysotachina willistoni, new species

Metallic blue or blue-green, the mesonotum almost without pollen, male with sexual patch. Length, 9 to 11 mm.

MALE.—Face mostly reddish or yellow in ground color, the cheeks dark. Pollen cinereous white, on the front more or less yellow. The pollen conceals the ground color except narrowly along the frontal row on the upper third; hair black; ocellars moderately long; occipital pile white. Palpi reddish. Antennae black, the incisures and most of the inner surface of the third segment reddish: in one specimen the antennae are reddish with the third segment mostly brownish.

Thorax shining blue or blue-green, the mesonotum with very thin pollen, the front and sides more evidently white pollinose; pleura with white pollen, the mesopleura more shining than the other parts. Hair wholly black.

Legs black, the tibiae brownish.

Wings cinereous hyaline. Squamae white, the rim more or less yellow.

Abdomen blue to blue-green, the second and third segments with thin yellowish pollen when viewed from behind. Hair black or brown in some lights, first sternite and middle of the second tergite below, with yellowish pile. Sides of the fourth tergite below with a sexual patch of moderately long stout hair. Under surface of the abdomen more or less violaceous.

FEMALE.—Pollen of the front and upper occiput rather ochraceous or brownish yellow; ground color of the front broadly exposed between the frontals and orbitals. Front tarsi slightly widened. Abdomen more inclined to be violaceous.

TYPES.—Holotype, male, and allotype, female, Quebrad Seca, Cauca Valley, Colombia, February 9, 1935 (H. F. Schwarz). Paratypes: male and female, Cali District, Cauca Valley, 3260 ft., January 28, 1935; female, Calli District, Western Cordilleras, 4800 ft., January 27, 1935 (H. F. Schwarz); male, Chapada, Brazil, November (Williston Collection).

Chrysotachina purpurea, new species

Violaceous, the squamae strongly tinged with brown; pollen of the head rich yellowish. Length, 12 mm.

MALE.—Face reddish in ground color; pollen deep brassy yellow, the violaceous occiput showing through except across the middle, the ground color of the front almost wholly concealed. Ocellars long. Pile of the occiput pale yellowish. Palpi and antennae reddish, the third antennal segment with brown apex and upper edge on apical half; arista black.

Thorax violaceous; pleura rather thinly whitish pollinose, the mesonotum with traces of pollen laterally and in front. Hair wholly black.

Legs black, the tibiae brown.

Wings cinereous hyaline. Squamae strongly tinged with brown.

Abdomen violaceous, the second and third tergites with thin, pale pollen from posterior view. Hair black, pale only on the first sternite. Sexual patch confined to the fourth segment, composed of rather fine, long hairs.

HOLOTYPE.—Male, Venezuela, September, 1923.

Chrysotachina townsendi, new species

Metallic green or blue-green; sexual patch confined to the fourth segment. Length, 9 to 11 mm.

MALE.—Face, palpi and antennae reddish. Pollen white with yellow tinge on the front; occiput thinly pollinose, the pile whitish. The green ground color shows through narrowly along the frontal row above.

Thorax with white pollen which is very thin on the mesonotum but may be rather conspicuous in front of the suture when viewed from behind. Hair wholly black.

Legs black or brown, with black hair, the trochanters and posterior coxae with yellowish pile.

Wings cinereous hyaline. Squamae strongly tinged with brown.

Abdomen with thin brownish yellow pollen on the second and third segments. Hair black above, brown below, the first sternite and inner edge of the second tergite with white hair. The sexual patch is composed of moderately long, dense hair.

FEMALE.—Third antennal segment mostly brown; ground color exposed broadly between the frontals and orbitals. Front tarsi slightly widened.

TYPES.—Holotype, male, allotype, female and paratype, male, Chapada, Brazil (Williston Collection).

Chrysotachina panamensis, new species

Metallic green, the females blue-green; thorax rather conspicuously pollinose. Length, 8 to 11 mm.

MALE.—Face reddish or yellowish, the ground color of the head practically all concealed. Pollen rather ochraceous, becoming almost white on the cheeks and face. Frontal hair fine. Occipital pile white. Palpi reddish with brown base. Antennae black, the incisure between the second and third segments reddish.

Pleura cinereous pollinose, the mesonotum with rather thick cinereous yellow pollen, leaving distinct, weak vittae. Hair black, white on the sternopleura.

Legs black; hair black, white on the trochanters and posterior coxae.

Wings slightly tinged with brown. Squamae white.

Abdomen with rather conspicuous pollen on the apical three segments, especially basally and laterally. Hair black, on the first sternite and on most of the under surface of the second and third tergites, pale yellowish. The sexual patch is composed of two clusters of longish hairs, one

on the apex of the third tergite below and a larger one on the fourth tergite behind it.

FEMALE.—More shining and with less evident pollen on the thorax and abdomen. Ground color of the front showing through inside the orbitals; pollen paler, more extensively white; third antennal segment sometimes mostly reddish on the inner side. Thorax wholly black-haired. Front tarsi broadened. No pale pile on the third tergite below.

TYPES.—Holotype, male, Barro Colorado, Canal Zone, January 5, 1929 (Curran); allotype, female, Corozal, Canal Zone, January 22, 1929 (Curran). Paratypes: two males, Barro Colorado, March 11, 1936 (W. J. Gertsch); female, Santa Emilia, Pochuta, Guatemala, February–March, 1931 (J. Bequaert); female, Prieta, Honduras, April 5, 1914.

Chrysotachina braueri Townsend

TOWNSEND, 1931, Revista Ent., I, p. 452.

Metallic green to blue; mesosternum white pilose; under surface of abdomen almost all whitish pilose in male. Length, 9 to 11 mm.

This species is very similar to *panamensis* but the sexual patch on the fourth segment is shorter and more compact, the white hair on the abdomen is more extensive and the mesosternum of the female is pale pilose. It is the type of *Chrysotachina* Brauer and Bergenstamm, having been misidentified as *rheinwardtii* Wiedemann.

Chrysotachina alcedo Loew

Gymnochaeta alcedo LOEW, 1869, Berl. Ent. Zeitschr., p. 150. COQUILLETT, 1897, Rev. N. A. Tachinidae, p. 89. TOWNSEND, 1908, Tax. Musc. Flies, p. 113.

Eugymnochaeta alcedo TOWNSEND, 1912, Proc. U. S. N. M., XLIII, p. 314.

A common species occurring over most of the United States and southern Canada. The male is readily recognized by the absence of sexual patches. The female is very similar to the female of *panamensis* but may be readily distinguished by the more extensively white pollinose under surface of the abdomen, the pollen not being restricted to the bases of the segments toward the sides in most specimens. Some females have the pile of the mesosternum black but it is usually white. The specimens having black haired mesosternum have the pollen on the under surface of the abdomen more restricted, thus resembling *braueri* and *panamensis*. There are typically three sternopleurals but a large percentage of the specimens show only two. It is possible that two species are concerned.

Chrysotachina peruviana Townsend

TOWNSEND, 1919, Proc. U. S. N. M., LVI, p. 590.

One paratype of this species is before me. It seems to be known only from the type series and a few additional specimens in the United States National Museum.

Paragymnochaeta equatorialis Townsend

Eugymnochaeta equatorialis TOWNSEND, 1912, Proc. U. S. N. M., XLIII, p. 314.

Paragymnochaeta equatorialis TOWNSEND, 1915, Proc. Biol. Soc. Wash., XXVIII, p. 21.

This genus is separated from *Chrysotachina* Brauer and Bergenstamm by the absence of ocellar bristles. Aldrich considered it a synonym of *Chrysotachina*, and it is possible that this is correct. I have one specimen of *Chrysotachina* that has only one ocellar.

P. equatorialis is very similar to *C. alcedo* Loew, except for the generic distinction, and the less pollinose under surface of the abdomen, in this latter respect resembling *braueri* Townsend. The male has no sexual patch. The squamae are whitish. Before me is a series of five males and one female from Chapada, Brazil (Williston Collection).